

11/20/10  
Period 3

## POW#7 E-I-E-I-O

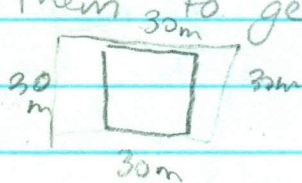
- ① Mr. Rainville had a farm, E-I-E-I-O.  
And on his farm he built a fence, E-I-E-I-O.  
He wants a rectangle here.

With 120 meters of wire there.

Part 1: What dimensions should Mr. Rainville use  
to have the maximum fenced-in area?

Part 2: How does the problem change and what  
would be the dimensions of the yard if he  
still used 120 meters of wire but he used  
the side of the barn for one of the sides  
of the rectangular yard?

- ② First, I started off part 1 by making  
a chart of lengths and widths and multiplied  
them to get the area of the square.



$$30 \times 30 = 900 \text{ m}^2$$

$$29 \times 31 = 899 \text{ m}^2$$

$$28 \times 32 = 896 \text{ m}^2$$

$$27 \times 33 = 891 \text{ m}^2$$

For part 2, I subtracted one side from the process  
because he's using 120 meters of fence and not  
counting the side of the barn. Then, I made  
a chart multiplying the lengths and widths  
together. I made sure I added the extra side  
to the length and width to get 120 meters.

$$40 \times 40 = 1600 \text{ m}^2$$

$$48 \times 36 = 1728 \text{ m}^2$$

$$60 \times 30 = 1800 \text{ m}^2$$

$$64 \times 28 = 1792 \text{ m}^2$$

$$\begin{array}{r} 30\text{m} \\ 30\text{m} \\ 30\text{m} \\ 30\text{m} \\ 120\text{m} \end{array}$$



③ Part 1: My solution to this problem is that a square with 30m by 30m got the max area of  $900\text{m}^2$ .

Part 2: The problem changes because the side of the barn is used as a side, but 120m of wire is still used. For the solution, I got a rectangle 60m by 30m gets a max area of  $1800\text{m}^2$ . I know that this is correct because the 1 length and 2 widths equal 120m. I also made a chart of different lengths and widths and know my answers are correct.

④ This problem was pretty easy for me. I thought that the only difficult part was making the chart with different lengths and widths with the side of the barn being used.